11:00 a.m.

851-3 Prognostic Implications of Ischemic Mitral Regurgitation in Patients With Myocardial Infarction

Ramdas G. Pai, Padmini Varadarajan, *VA Medical Center, Loma Linda, California, Loma Linda University, Loma Linda, California.*

Background: Mitral regurgitation (MR) is frequent in patients with myocardial infarction (MI). Prognostic importance of angiographically detected MR is well documented. However, angiography is performed in higher risk patients. Echocardiography on the other hand is more commonly performed in lower risk patients. But the prognostic implications of echocardiographically detected MR in the modern era is uncertain.
Methods and results: The echocardiographic database search in our laboratory from 1990 to 99 yielded 2623 patients who had evidence of MI (ie pathological Q waves) in concurrently obtained electrocardiograms - anterior in 868 and inferior in 2178 (both in 460). MR by Framingham criteria was present in 1566 (60%) patients - trivial in 455 (17%), mild in 796 (31%), moderate in 227 (9%) and severe in 88 (3%). Other patient characteristics: age 69(11) years, LV ejection fraction 46(16)%, 736 deaths over 3 years. Patients with trivial MR had a survival curve similar to those with no MR (5 year survival of 73%). However, survival was significantly lower in those with mild, moderate and severe degrees of MR (5 year survival 60, 49 and 30% respectively, p<0.0001). Deleterious effect of MR was present in both anterior and inferior MI. There was a strong association between increasing degrees of MR and older age (p<0.0001), and lower EF (p<0.0001). Proportional hazards model identified MR (p=0.009) to be an independent correlate of survival after correcting for age and EF (both p<0.0001).
Conclusions: 1) MR is frequent in MI and adversely affects prognosis. 2) It is related to age and LV dysfunction rather than MI location. 3) Its impact on mortality is independent of age and degree of LV dysfunction. 4) Even mild MR is a high risk indicator. 5) Optimal management of MR in MI warrants further investigations.

11:15 a.m.

851-4 Baseline Risk Predicts Therapeutic Efficacy Differences Between Coronary Bypass and Coronary Angioplasty

Charanjit S. Rihal, Manuel S. Lombardero, Gabriel Silverman, Katherine M. Detre, Hartzell V. Schaff, and Bernard J. Gersh for the BARI Investigators, *Mayo Clinic and Foundation, Rochester, Minnesota, University of Pittsburgh, Pittsburgh, Pennsylvania.*

Background: The Bypass Angioplasty Revascularization Investigation (BARI) found that diabetes mellitus before revascularization predicts differences between bypass surgery and angioplasty. The effects of more complex combinations of baseline factors have not been examined. We hypothesized that benefits of CABG over PTCA, if any, were proportional to baseline risk.
Methods: Baseline risk for the BARI population (trial + registry) was estimated with a multivariate risk score developed by the CABG Surgery Trialists Collaboration using a model to predict 10-year mortality. (Lancet 1994;344:563-70) that included both clinical (age, angina, history of myocardial infarction, diabetes, hypertension, and ejection fraction) and angiographic (right coronary or proximal LAD lesion) variables. Pts were divided into quintiles of risk and long-term all-cause mortality differences assessed with the log-rank statistic.
Results: 3610 pts (mean age 61.5 years, 74% male) were included in the analysis. 1517 underwent CABG and 2093 PTCA. Vital status was available for 97% and mean follow up was 7.7 years.
Conclusions: Baseline risk, as determined by an independently derived multivariable equation, accurately stratified pts. Observed long-term mortality at the highest levels of risk was lower after CABG compared to PTCA but equivalent at lower levels of risk. CABG is to be preferred over PTCA among high-risk pts, but either procedure is suitable at low and moderate levels of risk.

Risk Quintile	1	2	3	4	5
5-Year Mortality PTCA (%)	6.5	4.1	9.0	13.8	21.5
5-Year Mortality CABG (%)	4.2	6.8	8.3	11.5	16.4
P, Log-Rank Test	NS	NS	NS	0.088	0.0204

11:30 a.m.

851-5 Report of Erectile Dysfunction After Therapy With Beta-Blockers Is Related to Patient Knowledge of Side Effects and Is Reversed by Both Sildenafil Citrate and Placebo

Giuseppe M. Rosano, Giuseppe Mercuro, Filippo Leonardo, Paolo Pagnotta, Roberto Patrizi, Massimo Fini, *San Raffaele Hospital, Roma, Italy, University of Cagliari, Cagliari, Italy.*

Patients with cardiovascular diseases (CVD) frequently complain of erectile dysfunction especially when treated with beta-blockers. In order to assess whether the effect of beta-blockers on erectile dysfunction is, in part related to patient knowledge of the drug side effects 96 male patients with CVD entered a double-blinded parallel study. Thirty-two patients atenolol 50 mg (A) without knowledge of the drug they were administered, 32 received A knowing that the drug was a beta-blocker and 32 received A knowing that the drug they were taking was a beta-blocker and that it could have given erectile dysfunction.
After 3 months patients were administered a quality of life questionnaire containing questions about erection.
The incidence of erectile dysfunction was 3% in the group not knowing which drug they were taking, 16% in the group knowing that they were receiving a beta-blocker and 30% in the group also knowing the side effects of the drug (p<0.01). Patients reporting erectile dysfunction entered a double blind placebo controlled study on the effect of Sildenafil Citrate on the reversal of beta-blocker-induced erectile dysfunction. Sildenafil citrate and placebo were equally effective in reversing erectile dysfunction in all but one patient in whom only withdrawal of beta-blockade was effective in reversing erectiledysfunction..
In conclusion in male patients with CVD the report of erectile dysfunction after therapy with beta-blockers is largely related to patient knowledge of the drug side effects as it is almost always completely reversed by a placebo drug.

11:45 a.m.

851-6 Gender Differences in Extent and Severity of Coronary Disease in the ACC National Cardiovascular Disease Registry

Leslee J. Shaw, Raymond J. Gibbons, Ben McCallister, Kristi R. Mitchell, Kathleen Hewitt, Lloyd W. Klein, William S. Weintraub, Ralph G. Brindis, Richard E. Shaw, *Atlanta Cardiovascular Research Institute, Atlanta, Georgia, Mayo Clinic, Rochester, Minnesota.*

Background: The evaluation of women (W) with suspected coronary disease (CAD) remains a difficult diagnostic dilemma due to varying presentation and test accuracy.
Methods: A total of 43,629 elective diagnostic cardiac catheterizations performed for stable symptoms or provocative ischemia in 184 hospitals in 1999-2000. Multivariable logistic regression models were used to estimate 1) significant (>=70% stenosis) and 2) severe CAD (3 vessel or left main).
Results: W comprise 45% of patients and were older with more hypertension, diabetes, vascular disease, atypical angina, and heart failure symptoms. Significant and severe CAD rates were 30% and 7% in W and 48% and 15% in men (p<0.0001, see Table). In multivariable models, female gender was an independent predictor of significant (odds ratio[OR]=2.6, 95% CI=2.5-2.8, p<0.0001) and severe CAD (OR=2.5, 95% CI=2.3-2.7, p<0.0001). For W, significant CAD predictors were age, typical angina, vascular disease, hypertension, hypercholesterolemia, positive stress test, smoking, and diabetes (χ2=2769, p<0.0001, r2=.16). Severe CAD predictors were age, typical angina, vascular disease, hypercholesterolemia, diabetes, and smoking (χ2=768, p<0.0001, r2=.05).
Conclusions: Due to lower rates of obstructive CAD in women, predictive algorithms and clinical guidelines should consider development of separate male and female diagnostic strategies for optimal disease detection including newer, more aggressive screening approaches for women.

	0 Stenosis	>0<50% Stenosis	50-69% Stenosis	1 Vessel CAD	2 Vessel CAD	3 Vessel or Left Main CAD
Women (n=19761)	48%	14%	8%	16%	7%	7%
Men (n=23868)	32%	12%	8%	21%	12%	15%

ORAL CONTRIBUTIONS

852 Inflammatory Mechanisms of Myocardial Ischemia

Tuesday, March 19, 2002, 10:30 a.m.-Noon
Georgia World Congress Center, Room 160W

10:30 a.m.

852-1 Persistent Activation of the NF-K B Signaling Pathway in Patients With Unstable Angina and Elevated Levels of C-Reactive Protein

Giovanna Liuzzo, Matteo Santamaria, Francesca Ginnetti, Annalisa Porto, Dominick J. Angiolillo, Vittoria Rizzello, Luigi M. Biasucci, *Cardiology, Catholic University, Rome, Italy.*

Background: Elevated levels of C-reactive protein (CRP) are associated with an increased risk of persistent instability, death and myocardial infarction in patients with acute coronary syndromes. However, it is still unclear whether CRP is simply a marker of disease activity or a pathogenetic component of instability. Recent reports have suggested that CRP may amplify the response to other pro-inflammatory stimuli and that a specific activation of the nuclear transcription factor NF-κ B may be involved in this process. The aim of the present study was to explore the contribution of the NF-κ B signaling pathway to the enhanced inflammatory response observed in patients with unstable angina (UA).
Methods: We studied 12 patients with history of UA and persistently elevated levels of CRP (>3mg/L), followed for 12 months and free of symptoms for at least 3 months, and 12 patients with chronic stable angina (SA) and normal CRP. Freshly isolated peripheral blood monocytes (MO) were analyzed for spontaneous NF-κ B activation by electrophoretic mobility shift assay, and for IL-6 production after in vitro stimulation with low dose of lipopolysaccharide (LPS) (1ng/mL, for 4 hours).
Results: Evidence for NF-κ B signaling *in vivo* was provided by demonstrating the nuclear presence of NF-κ B complexes in MO freshly isolated from 9/12 (75%) UA versus 2/12 (17%) SA patients (P=0.014). As expected, LPS-stimulated IL-6 production (median, range) was significantly higher in UA (3.3 ng/ml, 2.5-7.9) than in SA (2.1 ng/ml, 0.2-4.5) (P<0.01). In the overall population, IL-6 production in response to LPS was linearly correlated with baseline levels of CRP (r=0.49, P<0.01) and with the NF-κ B activation status (r=0.39, P= 0.04).
Conclusions: Circulating MO from UA patients with persistently elevated levels of CRP exhibit a specific activation of the nuclear transcription factor NF-κ B, 3 months after the